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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/719,136	12/07/2000	Malcolm Barry James	COLLI-P-30/5	5715

7590

07/03/2002

Lackebach Siegel
One Chase Road
Scarsdale, NY 10583

EXAMINER

LUK, EMMANUEL S

ART UNIT	PAPER NUMBER
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1722

8

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-8

Office Action Summary

Application No.

09/719,136

Applicant(s)

JAMES, MALCOLM BARRY

Examiner

Emmanuel S. Luk

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/9/99.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 11-14 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 11-14 and 17 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Rinderle (4387762).

Rinderle teaches a mold that requires heat to be taken from the mold, including a sealed chamber (21) that extends to cover the areas where heat is to be taken, the chamber is shaped and positioned so the liquid (22) will have access to the areas (5) of the mold from which heat is to be taken (Fig. 1), the liquid can be water (Col. 9, line 2) that evaporates into a gaseous state in the chamber due to the heat and the vapor of the liquid is collected at the cold end of the heat pipe condenser where it is collected as a liquid (Col. 9, lines 4-16).

Rinderle fails specifically state that the chamber partially filled with a liquid with a space above the liquid with only vapor of the liquid with the condensing means in this space.

Rinderle does teach that the vapor is driven to the cold end of the heat pipe due to pressure gradient, where condensation means causes the vapor to condense. This cold end of the heat pipe and condensation means at this end is the space and due to pressure gradient is located above the liquid in the heat pipe.

In regards to claims 4-7, the use of the mold for molding of plastic materials, mold casting of metals, injection molding and thermoforming are all intended use of the mold. A recitation with respect to manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the structural limitations of the claimed, *Ex parte Masham*, 2 USPQ2d 1647.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rinderle in view of Reifenhauser (44888861).

Rinderle teaches the mold as recited above.

Rinderle fails to teach a method of cooling that having a first step of partially filling the closed chamber with the liquid and extracting the air or filling the chamber with liquid and extracting a portion of the liquid.

Reifenhauser teaches partially filling chambers (11) with water (12) and the space above the water is evacuated, thus allowing for liquid body to boil at one end (14) while the vapor condenses in the other portions (15, 16) in the chamber. The chamber is a two-phased system for cooling in a molding apparatus. Both Rinderle and Reifenhauser teach a chamber with a cooling liquid that evaporates and condenses within the same chamber. This is possible due to the evacuated condition thereby only allowing the vapor of the liquid to be above the liquid level in the chamber. To accomplish this, Reifenhauser discusses on method by evacuating the air above the liquid level. Another conventional method that one of ordinary skill in the art would recognize is to pump the liquid from chamber thereby creating a space without air in that space. Both methods require pumping of excess material from the chamber that creates a space void of air.

It would have been obvious to one of ordinary skill in the art to modify Rinderle with method of removing the air above the liquid as taught by Reifenhauser because it allows for the removal of air from the liquid thereby creating a lower pressure

environment for the liquid that allows for the evaporation of the liquid at a lower temperature.

Conclusion

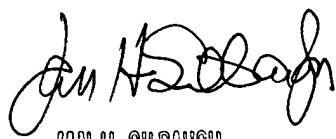
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Allen and Larsson.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (703) 305-1558. The examiner can normally be reached on Mondays through Thursdays from 6:30 AM to 4:00 PM and alternate Fridays from 6:30 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jan H. Silbaugh can be reached on (703) 308-3829. The Rightfax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

E. L.
June 28, 2002


JAN. H. SILBAUGH
SUPERVISORY PATENT EXAMINER
ART UNIT 1722
06/28/02